

CLAIMS

What is claimed is:

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a1  
1. A vibration isolator, comprising:  
2 a housing that has an outer non-circular seat;  
3 a support plate that has a non-circular shoulder; and,  
4 a pendulum assembly coupled to said support plate. )

Sub  
c1  
2. The vibration isolator of claim 1, wherein said  
outer non-circular seat has a tapered surface.

3. The vibration isolator of claim 1, wherein said  
pendulum assembly includes a cable that is coupled to a  
piston and said support plate, said piston being coupled to  
said housing.

4. The vibration isolator of claim 3, wherein said  
housing has an inner non-circular seat and said piston has  
a non-circular outer top surface.

5. The vibration isolator of claim 3, wherein said  
housing includes an inner cylinder which defines a first

3 inner chamber and is located within a second inner chamber,  
4 said piston being located within said first inner chamber.

1 6. The vibration isolator of claim 5, wherein said  
2 inner cylinder includes a damping element.

1 7. The vibration isolator of claim 3, wherein said  
2 piston has an inner cavity that contains a damping fluid.

8. A vibration isolator, comprising:  
a housing that has an inner non-circular seat;  
a support plate;  
a piston that has a non-circular outer surface; and,  
a cable coupled to said piston and said support plate.

1 9. The vibration isolator of claim 8, wherein said  
2 inner non-circular seat includes a tapered surface.

1 10. The vibration isolator of claim 8, wherein said  
2 housing has an outer non-circular seat and said support  
3 plate has a non-circular shoulder.

1 11. The vibration isolator of claim 8, wherein said  
2 housing includes an inner cylinder which defines a first  
3 inner chamber and is located within a second inner chamber,  
4 said piston being located within said first inner chamber.

1 12. The vibration isolator of claim 11, wherein said  
2 inner cylinder includes a damping element.

13. The vibration isolator of claim 8, wherein said  
piston has an inner cavity that contains a damping fluid.

14. A vibration isolator, comprising:  
a housing that has outer alignment means;  
a support plate that has means for aligning with said  
4 housing; and,  
5 a pendulum assembly coupled to said support plate.

1 15. The vibration isolator of claim 14, wherein said  
2 pendulum assembly includes a cable that is coupled to a  
3 piston and said support plate, said piston being coupled to  
4 said housing.

1 16. The vibration isolator of claim 15, wherein said  
2 housing has inner alignment means and said piston has means  
3 for aligning with said housing.

1 17. The vibration isolator of claim 15, wherein said  
2 housing includes an inner cylinder which defines a first  
3 inner chamber and is located within a second inner chamber,  
4 said piston being located within said first inner chamber.

1 18. The vibration isolator of claim 17, wherein said  
2 inner cylinder includes a damping element.

1 19. The vibration isolator of claim 15, wherein said  
2 piston has an inner cavity that contains a damping fluid.

1 20. A vibration isolator, comprising:  
2 a housing that has inner alignment means;  
3 a support plate;  
4 a piston that has alignment means for aligning with  
5 said housing; and,  
6 a cable coupled to said piston and said support plate.

1 21. The vibration isolator of claim 20, wherein said  
2 housing has outer alignment means and said support plate  
3 has means for aligning with said housing.

1 22. The vibration isolator of claim 20, wherein said  
2 housing includes an inner cylinder which defines a first  
3 inner chamber and is located within a second inner chamber,  
4 said piston being located within said first inner chamber.

23. The vibration isolator of claim 22, wherein said  
inner cylinder includes a damping element.

24. The vibration isolator of claim 20, wherein said  
piston has an inner cavity that contains a damping fluid.

1 25. A method for aligning a support plate of a  
2 pneumatic vibration isolator, comprising:  
3 releasing a fluid from a housing of a vibration  
4 isolator such that a support plate becomes seated within a  
5 non-circular seat of the housing.

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cont

1 26. The method of claims 25, further comprising  
2 attaching a payload to the support plate.

3 27. A method for aligning a support plate of a  
4 pneumatic vibration isolator, comprising:

5 charging a housing with a fluid so that a piston is  
6 seated within a non-circular seat of a housing.

28. The method of claim 27, further comprising  
attaching a payload to the support plate.

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